

TUNGSTEN POWDER METALLURGY PRODUCTS

Number PD-7013 Issue 1-2015-11-03

PURE TUNGSTEN WP-2 Plate 4203

Description of Product This specification covers rolled tungsten plate produced from pressed and

sintered powder metallurgy sheet bar.

Chemical Characteristics¹⁾

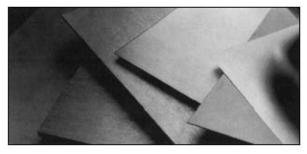
(Mass fraction in % [cg/g]; ppm [µg/g])

The chemical composition of the tungsten powder used in producing sheet bar shall conform to the following limits:

| Tungsten (By Difference) | min. | 99.95 % |
|--------------------------|------|---------|
| Al | max. | 0.002 % |
| Cr | max. | 0.002 % |
| Cu | max. | 0.002 % |
| Mg | max. | 0.002 % |
| Mn | max. | 0.002 % |
| Pb | max. | 0.002 % |
| Si | max. | 0.002 % |
| Sn | max. | 0.002 % |
| Ti | max. | 0.002 % |
| Ca | max. | 0.003 % |
| Fe | max. | 0.003 % |
| Ni | max. | 0.003 % |
| С | max. | 0.005 % |

Structure

Plate will be supplied in the stress-relieved condition unless otherwise requested.



CSM P/M - WP-2

¹⁾ Information on testing methods on request.



High Performance Metal Solutions

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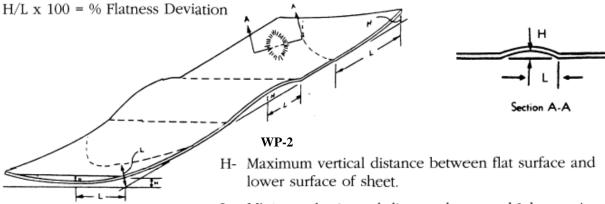
Physical Characteristics

| Thickness (Inches) | Thickness | Width | Length | Flatness |
|--------------------|------------------|-----------|-----------|-------------|
| | Tolerance | Tolerance | Tolerance | Deviation |
| | (% of Thickness) | (Inches) | (Inches) | (% Maximum) |
| .1875 to .625 | ± 4 | +.125 -0 | +.125 -0 | 5 |
| Over .625 to 1.125 | ± 5 | +.125 -0 | +.125 -0 | 5 |

Plate camber (edge straightness) = Maximum .0625 inch per foot of length.

Plate will be sheared, abrasive cut, band saw cut, or water jet cut to the tolerances shown.

The deviation from flatness is determined by the formula:



L- Minimum horizontal distance between highest point on sheet and point contact with flat surface.

Surface Condition

Tungsten plate is normally supplied with a uniform matte finish, clean and free from foreign matter. Major surface defects will be removed by grinding provided that such conditioning does not reduce dimensions below specified limits.

Hazards identification in Advertising (REGULATION (EC) No 1272/2008 Article 48)

none.

Identification

The material will be identified with appropriate specification number, ingot or lot number, and nominal size. Shipping containers will be marked with the name of the customer and the purchase order number.

Rejection

H.C. Starck must receive written notification of rejected material with the resaon for rejection. The right is reserved to inspect rejected material at customer plant for claim validation. The material may be returned only after proper authorization.

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High Performance Metal Solutions

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